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USACE personnel, vessels assist authorities at Hudson River crash site

On Aug. 8, a mid-air collision over the Hudson River sent a helicopter and a small plane crashing into the water between Hoboken, N.J., and West 14th Street in Manhattan. Both aircraft immediately sank in the navigation channel. The U.S. Army Corps of Engineers' drift collection vessel *Driftmaster* was working in the Hudson at the time and responded to an emergency call from the U.S. Coast Guard.

Unfortunately, all nine people aboard both aircraft lost their lives in this accident. When the operation changed to a recovery mission, USACE worked closely with local, state, and federal authorities to assist.

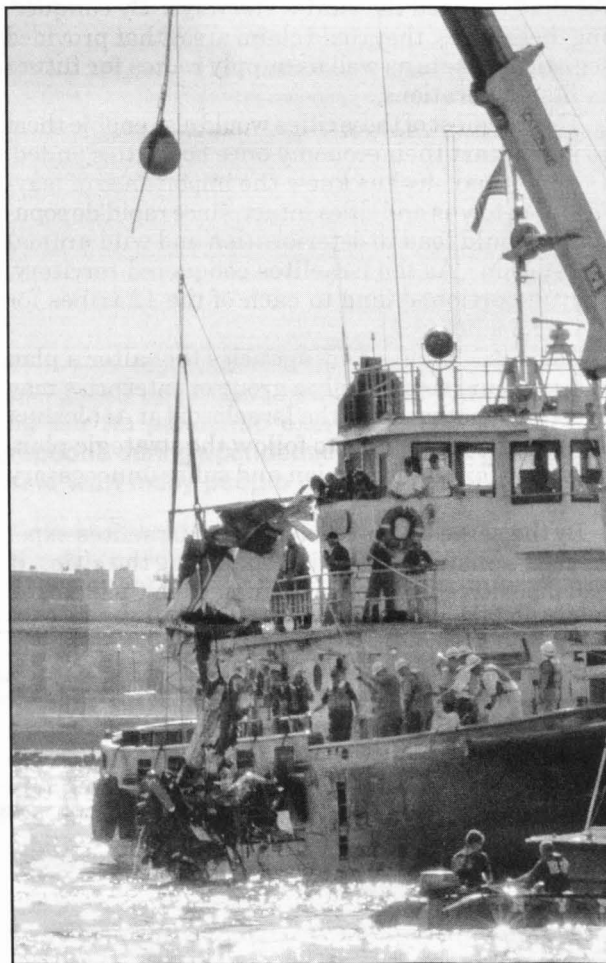
The U.S. Coast Guard closed the deep-draft navigation channel for recovery operations, and the *Driftmaster* immediately participated in the search and recovery operations by gathering wreckage and providing it to law enforcement officials.

Recovery operations in the Hudson River are always tough due to the strong currents, limited visibility, and deep water. But New York District has the mission to help keep the New York and New Jersey Harbor safe, which demands close working relationships with other homeland security agencies. So, the district has a wealth of experience and know-how in conducting disaster response operations.

To help with the search for the sunken wreckage, New York District called on one of the Corps' most technologically advanced survey vessels, the *Moritz*, manned by a crew of top-notch mariners and highly trained and experienced hydrographic surveyors.

Using multi-beam sonar capabilities, the crew of the *Moritz* mapped the bottom of the Hudson River. Comparing that survey with the most recent channel condition survey, they identified differences and found a large anomaly that was marked by a buoy on the night of Aug. 8. The next morning, New York City Police Department (NYPD) divers identified the anomaly as the helicopter cabin.

The *Driftmaster* was back on the scene shortly after and worked with NYPD divers to rig the helicopter for retrieval. By late Aug. 9, the *Driftmaster* recovered the helicopter and delivered it to a pier in



The *Hayward* lifts airplane wreckage from the Hudson River. (Photo courtesy of New York District)

Hoboken, N.J., where teams of National Transportation Safety Board (NTSB) investigators began examining the wreckage.

Col. John Boulé, New York District commander, inspected the operations on Aug. 9, including Incident Command Centers in Manhattan and Hoboken and both the *Driftmaster* and the *Moritz*.

"Our operations team worked closely with New York City, New Jersey, and federal officials to develop and execute a plan to recover and process the wreckage," Boulé said. "Everyone focused on a common purpose — finding the airframes and returning the victims to their loved ones."

The *Moritz* continued to assist with the search for remaining aircraft wreckage, and on the night of Aug. 10 another anomaly proved to be the plane's cabin in 60 feet of water. By the afternoon of Aug. 11, the USACE drift collection vessel *Hayward* was on the scene to lift the plane from the Hudson and turn it over to NTSB officials.

"All parties operated as members of a joint team to finish the job, despite adverse working conditions," Boulé said.

After the Aug. 11 recovery, Thomas Creamer, operations division chief of New York District, said, "The district's surveys and plant operations team continues to play a vital role by working closely with New Jersey State Police divers to search for and recover the rest of the plane wreckage, including the wings of the plane, which are potential hazards to navigation along the Hudson River channel."

New York District's fleet of working vessels is always ready to assist in emergencies, and has assisted after incidents ranging from the recent "Miracle on the Hudson" emergency landing to large disasters like the crash of American Airlines Flight 587 in Belle Harbor in November 2001.

On normal days, the district's drift collection vessels patrol in and around the New York and New Jersey Harbor collecting floating drift and debris that are hazardous to the many commuter ferries, deep-draft commercial vessels, and recreation vessels that travel in and around the harbor estuary. The district's survey vessels and crews perform hydrographic surveys to validate dredging project depths and navigation conditions.

The USACE drift collection program prevents an estimated \$25 million in damage each year to vessels that regularly travel in and around the harbor. (New York District press release.)



USACE personnel on the *Driftmaster* hand lifting straps to NYPD divers to recover the helicopter wreckage. (Photo courtesy of New York District)



The advanced sonar systems on the USACE survey vessel *Moritz* (right) were vital to the search for the wreckage. (Photo courtesy of New York District)

Insights

A strategic plan is vital to victory

By Col. Hanson Boney
Chaplain, U.S. Army Corps of Engineers

Sun Tzu Wu, the great military strategist of China, once wrote, "A plan of campaign should anticipate everything that the enemy can do, and contain the means of thwarting him."

What we learn from Sun Tzu is the importance a strategic plan, a road map that outlines important milestones in accomplishing a mission. Strategic plans are undergirded by a vision that paints a picture of a favorable future or desired end state.

Whether one is a senior military leader or a corporate CEO, he or she will generally operate his organization from projected long-term and short-term goals and objectives to ensure success and enhance the longevity of the enterprise.

This is as critical for product management in business as it is for victory on the battlefield, and it is a very old idea.

In the Book of Joshua, the Israelites have the awesome task of conquering the Canaanite lands between the Mediterranean Sea and the Euphrates River. This territory was to become the homeland from which they were to fulfill God's divine plan of reconciliation.

Canaan was, at the time, a prosperous land with vast pastures and lush vegetation, more than enough to sustain a growing population of newcomers. At strategic points in the landscape were tributaries that provided irrigation for farming and oases for watering livestock. This land of "milk and honey" was all they could ever hope for, except that was already in-

habited by other people.

Some may object to God sanctioning the invasion of a nation. But all of the Canaanite tribes practiced human sacrifice, even child sacrifice, a practice that God said is an abomination to Him. God said that "their sin is complete," and He saw no hope that they would change. The Israelite invasion of Canaan was part of God's strategic plan to end the practice of human sacrifice.

To accomplish the mission of possessing the land, Joshua, along with his predecessor Moses, devised a strategic plan where they would lay siege to the cities that guarded the vital waterways. By conquering these cities, they could claim areas that provided logistical assets as well as supply routes for future military operations.

The conquest of these cities would also enable them to jump-start their economy once hostilities ended. In addition, Joshua knew the importance of leaving some towns and cities intact, since rapid depopulation would lead to deterioration and wild animal infestation. As the Israelites conquered territory, they apportioned land to each of the 12 tribes for management.

There are always contingencies that alter a plan of action, and occasionally a group or enterprise may experience setbacks, as the Israelites did at Ai (Joshua 7). When a group fails to follow the strategic plan, they may fail in the mission and suffer unnecessary losses.

By the same token, whenever the Israelites experienced unusual success in conquering the cities, it had a positive psychological impact on their army,

and evoked fear throughout the Canaanite forces. Some cities surrendered without a fight.

Throughout the long campaigns, the faith of the Israelites sustained them. They believed that no matter what happened, God would uphold the integrity of His strategic plan. This belief sustained them when they approached the Jebusite strongholds and the opposition became formidable.

On occasion, the Israelites needed a miracle, as they did at Gibeon (Joshua 10). As long as they adhered to God's plan, He always provided the miracle they need with astronomical, meteorological, and geological phenomena.

The U.S. Army Corps of Engineers operates under a strategic plan that addresses various contingencies, both natural and man-made. Our mission is to provide for the long-term welfare of the nation. When we adhere to the plan, we accomplish our mission without unnecessary and costly delays, distractions, and alterations.

Yes, at times, there are unforeseen events such as Hurricane Katrina and Hurricane Ike that challenge our ability to carry out the plan, but it is at those times that we must trust God to provide the miracle that will sustain our plan.

After all, He knows the outcome — our future is secure in His Hands. Joshua knew this. Are you sure of it?

(The opinions expressed in this article are those of the writer and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)

Letters to the Editor



NCOs of other services

I appreciate very much the article you wrote in the July *Engineer Update* about non-commissioned officers (NCOs) and the many vital roles we have.

However, I would like to mention that the U.S. Army Corps of Engineers has changed and is becoming a joint command. Currently, there are not only Soldiers but also Marines, airmen, Coast Guard sailors, and Navy sailors serving shoulder-to-shoulder with the U.S. Army in Afghanistan.

We are also NCOs by Army standards, and serve proudly everywhere USACE operates. I am a U.S. Navy Reserve petty officer first class, the equivalent of an Army staff sergeant. I am currently volunteering and serving on one of the best deployments I have ever had, working for Afghanistan Engineer District at Forward Operating Base Salerno in Khowst province.

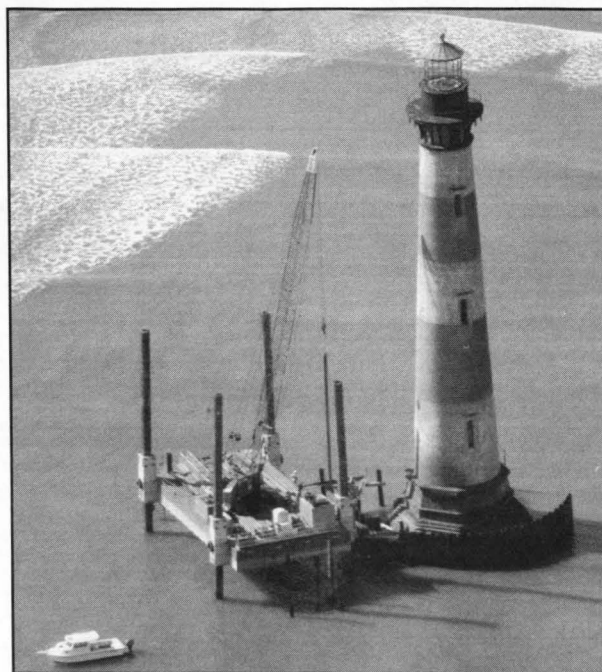
The experience of serving with the mighty U.S. Army is the very best, and I'm honored to serve my country in Afghanistan.

Hooooo Yaaaaa! (That's a Navy greeting!)

Rafael Beltran III
YN1 U.S. Navy Reserve
FOB Salerno

Charleston District protects Morris Island Lighthouse

By Sara Corbett
Charleston District



A jack-up barge provided a stable work platform to install the sheet pile ring that protects the Morris Island Lighthouse from erosion. (Photo courtesy of Charleston District)

For almost 300 years, the light on Morris Island was the first light that sailors could see as they entered Charleston Harbor. What began as a simple navigation aid, a raised metal pan set aflame each night, later gave way in 1767 to the first lighthouse. It was one of only 10 Revolutionary War lights that survived the Civil War.

The current Morris Island Lighthouse was built in 1876 and illuminated on Oct. 1 that year. It was placed on the National Register of Historic Places in 1982.

When the lighthouse was built, it was originally located on high ground more than a half mile from the Atlantic Ocean. Due to shoreline erosion, the lighthouse is now about 2,000 feet offshore from Morris Island, completely surrounded by water. It is southwest of the Charleston Harbor jetties, where the water depth changes seasonally.

In 1999, Save the Light, Inc. was created to preserve and stabilize the lighthouse. Save the Light consulted with Charleston District to determine how to achieve their goal.

The lighthouse had weathered more than a cen-

Continued on next page



Wilmington District prepares for operations during flu pandemic

Article by Penny Schmitt
Photo by Hank Heusinkveld
Wilmington District

Wilmington District is keeping tabs on the news about the H1N1 flu. But the district is *not* worrying. Instead, it is making plans to keep working for the American public from home or from essential sites that must be maintained to keep our nation's waterways, dams, and other facilities working smoothly.

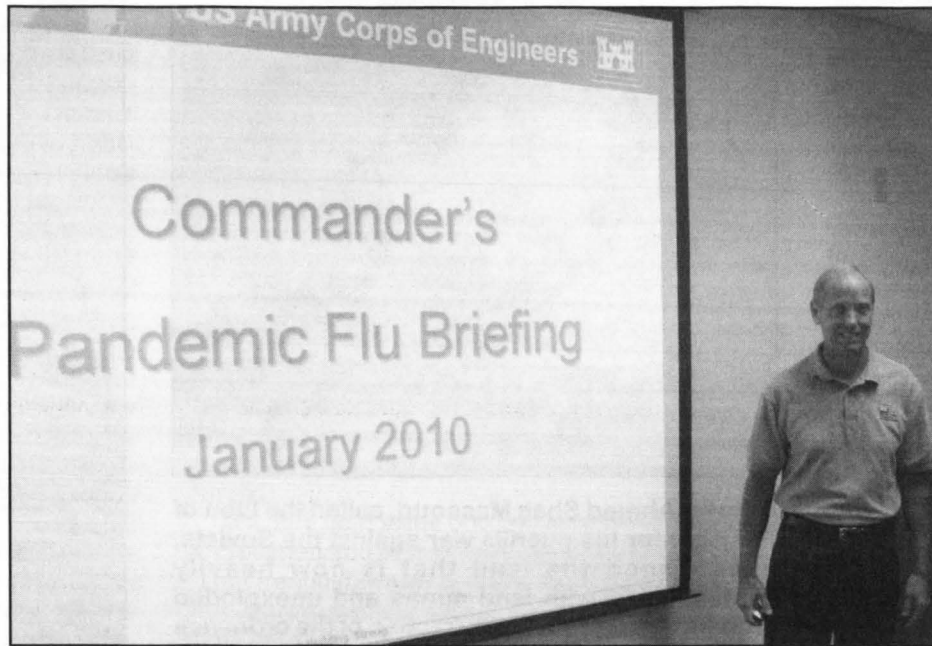
While the Wilmington District team does not know what disruptions may occur if "social distancing" is required, or if there is extensive absenteeism while people are ill or caring for sick relatives, they *are* preparing for continued, effective operations.

Early plans. Ron Stirrat, district emergency operations manager, and his team began looking at the potential for a pandemic situation more than a year ago, when avian flu made headlines.

"Diane Lastinger, a member of my team, put together a pandemic flu annex for our continuity of operations plan," Stirrat said. "As a district that has experienced many real-time hurricane emergencies, we know that it's important to think through our operations ahead of time. It truly does make for a more effective and swift response when there is a true emergency."

Unique situation. "When we began looking into it, we realized a pandemic is clearly a different situation from a hurricane," Stirrat added. "A wide-spread flu epidemic presents the potential for periods of up to several weeks with either high absentee rates, or rules for keeping kids home from school and workers away from their offices. Instead of power outages and a few people staying home to deal with damage from water, fallen trees, and the like, we need to be prepared to stay connected with one another and keep carrying out day-to-day operations while *nearly all* of our folks are away from their work stations for an extended period."

In early August, Wilmington District



Ron Stirrat, emergency operations manager for Wilmington District, gives a briefing during the flu pandemic exercise. The scenario assumed high personnel disruptions during a pandemic next January, and tested the district's ability to operate with many people working from remote locations.

became the first USACE district to conduct a readiness exercise addressing the work situation they might face if a flu pandemic struck this winter.

Pandemic exercise. The exercise, conducted Aug. 11-13, gave the district's leadership a lot of good information and lessons learned.

"We did not send the whole district home," Stirrat said. "That would have been cost-prohibitive. Instead, we selected our key leadership and support positions, and asked those people to test certain functions from home or a remote location for a couple of hours on the day of the exercise. Our purpose was to validate the plan we had written, and discover any needed changes."

On Aug. 11, the entire district staff received an e-mail scenario describing a potential flu situation developing in and around the district's home county. Bill Harris, the district safety officer, distributed another e-mail with information about the flu, and guidance on how to prevent spread of the virus in

the workplace.

"It was a good opportunity to pass on important information in a realistic situation," Harris said. "We've had one possible case of flu (not lab tested) in our district work force thus far. It's important for people to be informed rather than alarmed."

For several weeks leading up to the exercise, participants met to determine the important functions to be tested, to learn the basics of conducting a meeting online, and to find out how to access VPN (Virtual Private Network) on laptop computers taken home from the office, or to connect to limited e-mail functions from their personal computers at home.

On the day of the exercise, about two dozen team members made connections to a variety of work systems and tested their connectivity and ability to carry out actions on USACE systems. One even reported in from her travel destination in Phoenix, Ariz.

Lessons learned. What did Wilmington District learn? Despite a wide variety of Internet access methods used in district members' homes, most were able to connect with their e-mail and carry out essential business functions. Personnel specialists were able to move real actions forward.

"We had great success maintaining our critical mission areas, and we identified the processes that need to be improved to make things even better," said Col. Jefferson Ryscavage, district commander. "We were able to connect with our powerhouses, dams, water control folks, and our district dredge and survey fleet. Thus, our critical services to the American people stayed online."

Administrative functions will require more preparation and training, but also yielded some important successes.

"I was able to work several actions from home and send those actions to our processing center in Huntsville to update. It was a very positive experience for me," said Gloria Dyson, human resources specialist.

Jackie Cook agreed. "My goal was to learn if we could work on-the-job injury claims from a remote site, then submit the electronic forms to the Office of Workers' Compensation Program (OWCP) for adjudication. As luck would have it, the CPAC received an actual traumatic injury claim the afternoon before the exercise. So, on the day of the exercise the HR specialist successfully completed the necessary steps to electronically submit to OWCP."

In addition, Corps of Engineers Financial Management System (CEFMS) transactions and timekeeping could be initiated and completed. Staff found it possible to use the P2 work management system, request and successfully complete work orders through the ACE-IT information management help desk, and access the VOCUS system used to make news releases to the public.

The lead staff also held an online meeting and conference call.

Lou Smith, the district's chief of Resources Management, said, "I was pleased that when Resource Management tested connectivity to several of our automated requirements, we were successful. We tested CEFMS entry to include purchase request and commitment, permission tables like 10.16.5, the Program Budget Allocation System, operating budget funding adjustments and reports. We tested connectivity to BOA, the Defense Civilian Payroll System, and we will be testing the ability to transmit payroll, pull the extract, upload, and open the pay period from home."

Difficulties. On the other hand, Smith was one of those who had a hard time connecting to an online meeting.

"Some people ran into difficulties, and we wanted to find those problems as part of the exercise," Stirrat said. "Now that we know our communications issues, we can make sure they are resolved. Fortunately, a pandemic flu event gives time for advance preparation. I'd say we could expect to have about 30 days warning time to ensure that people's communications issues are ironed out, give refresher training to our key folks, and have people with good connectivity in place to carry out critical missions. We're well aware that we may have to ensure that key functions are trained several people deep, since it will not be possible to know who will be sick!"

Stirrat said that Wilmington District is proud to take the lead on pandemic flu preparation, and would be happy to share lessons learned with other emergency management and health and safety offices throughout USACE.

Lighthouse

Continued from previous page
tury of ocean currents, earthquakes, and hurricanes, and was highly susceptible to erosion.

The dynamic ocean conditions also presented unique challenges. Access by the contractor and USACE inspector was made daily by water from eight miles or more away. Rough sea conditions and bad weather made it unsafe to transfer laborers, equipment, and materials.

Instead of a floating barge, a jack-up barge provided a stable work platform.

To reduce erosion, USACE installed

a 45-foot tall sheet pile ring about 72 feet in diameter around the base of the lighthouse. A rock apron outside the ring reduced scour and erosion.

The sheet pile ring will also provide a protected environment for future work on the lighthouse foundation.

The project is complete and will protect the Morris Island Lighthouse from erosion for another 50 to 100 years.

"We're excited and proud to be a part of this effort to save this important national historic landmark," said project manager Jimmy Hadden. "We're all strongly committed to protecting this South Carolina treasure."

Dangerous real estate

USACE cleans up most heavily mined region of Afghanistan

By Joe Marek
Afghanistan Engineer District North

The U.S. Army Corps of Engineers is de-mining what could be the most dangerous real estate in the world. This land was also the home of an Afghanistan hero in the war on terror, and it will be the future training area of others who will continue fighting that war.

USACE is working with the Combined Security Transition Command – Afghanistan (CSTC-A) and Ronco Consulting Corporation to clear land mines from the future site of Afghanistan Defense University (ADU). It will also be the site of a monument to Ahmad Shah Massoud, the “Lion of Panjsher.”

The 2,485-square-mile area has seen more than 30 years of fighting, and is filled with Cold War and Taliban history. It is also something of a shrine to Massoud, a brilliant strategist known for his resistance against the former Soviet Union.

The Soviets first seized this land in 1979, which at that time belonged to Massoud’s family, and turned it into a military compound and school. Massoud fought the Soviets during their 10-year occupation of Afghanistan.

Repeatedly, the Soviets tried to capture or kill Massoud, but he always managed to escape. Massoud’s guerilla war and the devoted support of his followers made him a champion of the Cold War when the Soviets finally withdrew from Afghanistan in 1989, leaving a communist government in place.

In 1992, Massoud reclaimed Kabul and overthrew its communist-controlled government. He also reclaimed his family land, but for only a short time. In a massive offensive against the government and Kabul in 1996, the Taliban seized control of the capital city, but again Massoud escaped with his life.

On a mission in April 2001, Massoud went to Europe to hold a press conference and inform western leaders about the growing power of Al-Qaeda. Massoud appealed to all nations, “Do not leave the Afghan people alone in their resistance. If Afghanistan would lose the fight against terrorism, the whole world would lose.”

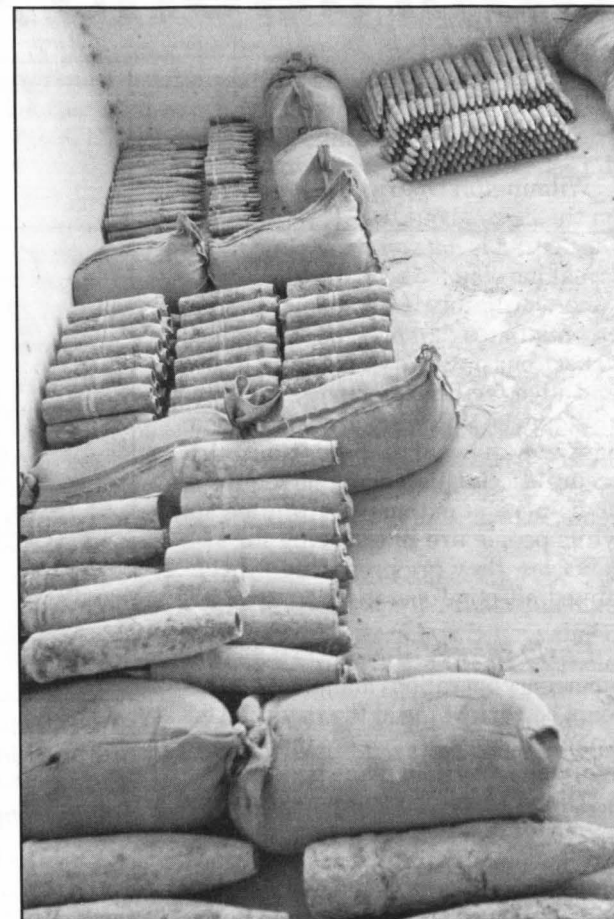


(Above) Ahmad Shah Massoud, called the Lion of Panjsher for his guerilla war against the Soviets, once owned the land that is now heavily contaminated with land mines and unexploded ordnance. (Right) A small fraction of the ordnance removed from the land. (Photos courtesy of Afghanistan Engineer District)

On Sept. 9, 2001, Massoud’s luck ran out when two assassins disguised as journalists murdered him. And Massoud’s words were prophetic – two days later came the Sept. 11 terrorist attacks in the U.S. The Afghan Interim Government under President Karzai posthumously awarded Massoud the title Hero of the Afghan Nation.

The history of Massoud’s land, and his role in battling oppression and terrorism, led the Afghan government to pick the site for the Afghanistan Defense University (ADU), and a monument to Ahmad Shah Massoud.

But there is a major obstacle in this plan. The land is thick with unexploded ordnance (UXO) and land mines. After the terrorist attack on Sept. 11, 2001, Massoud’s family land became a Taliban headquarters. It housed the Taliban regime, leaders, commanders, and huge amounts of ordnance.



During Operation Enduring Freedom, coalition forces bombed the area to destroy the Taliban and their stored ordnance. Unfortunately, the explosions scattered ordnance throughout the area. That, plus the land mines placed by the Soviets, made it one of the most contaminated areas in Kabul.

This fact did not deter the Afghan government from pursuing the ADU project on this land, but USACE policy required that no construction could be built until UXO was removed to the depth of one meter (a

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New district activates in Afghanistan

Article and Photos
By Bruce Huffman
Afghanistan Engineer District North

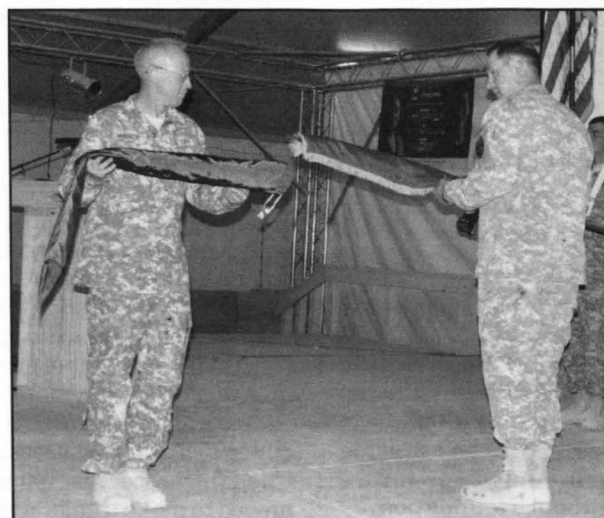
Col. Kevin Wilson became the first commander of the newly-established Afghanistan Engineer District South, during an activation ceremony held Aug. 3 at Kandahar Airfield.

During the ceremony, Maj. Gen. John Macdonald, deputy commanding general of U.S. Forces Afghanistan, unfurled the colors for the first time and passed them to Wilson, symbolizing the official transfer of authority and activation of Afghanistan Engineer District South (AED South), the second U.S. Army Corps of Engineers district in Afghanistan.

“There isn’t much better than doing a combat unfurling,” said Macdonald. “To uncase a set of colors in the middle of a combat zone speaks volumes about how necessary this command is. So, this is an exciting moment.”

Wilson comes to AED South from Alaska District where he was the commander since July 2006.

The USACE mission in Afghanistan is to conduct project management, construction, and engineering in the Central Asian Republics, primarily Afghanistan, to help establish a secure, stable environment and promote construction and infrastructure devel-



Master Sgt. Rocky McKenzie (left) and Maj. Gen. John Macdonald uncase the colors of Afghanistan Engineer District South.

opment. USACE has supported coalition forces participating in Operation Enduring Freedom since 2002, and the first Corps district in Afghanistan, AED North, was established in Kabul in March 2004.

From 2002 through 2008, USACE has done more

than \$4.5 billion in construction in Afghanistan, mostly building facilities for the Afghan National Security Forces and the coalition forces. In 2009, AED will do more than \$2.6 billion in construction, with even more work planned in the next few years as they provide facilities for the build-up of incoming U.S. and coalition forces.

This increased workload was the driving force behind the creation of the new district. AED South will handle construction activity in Regional Command South and Regional Command West, and AED North will handle construction in Regional Command North and Regional Command East.

“Afghanistan Engineer District South is operational,” Wilson said. “Our colors are unfurled, and we are going to be a lean and capable organization with the agility and technical competence to execute whatever program comes our way.”

According to Wilson, supporting combat operations is a key part of the USACE mission, but you also have to do projects that support the Afghan economy. “You have to generate the power, you gave to put in the roads so they can get their agriculture products to market, process them, and forward them on the global economy,” Wilson said. “That’s how you connect Afghanistan. That’s what the next step is, and that’s how we’ll win this war.”

Jamestown flood fight ends quietly

By Michael Fletcher
Omaha District

Everyone knows how a flood-fight begins, with national headlines and lead stories on the evening news. But it ends quietly with local ceremonies. Jamestown, N.D., celebrated the end of the 2009 flood fight in a ceremony on Aug. 28. Jamestown, population 14,630, considers members of Omaha District part of their community after five months of fighting flood conditions on the James River that flows through the city.

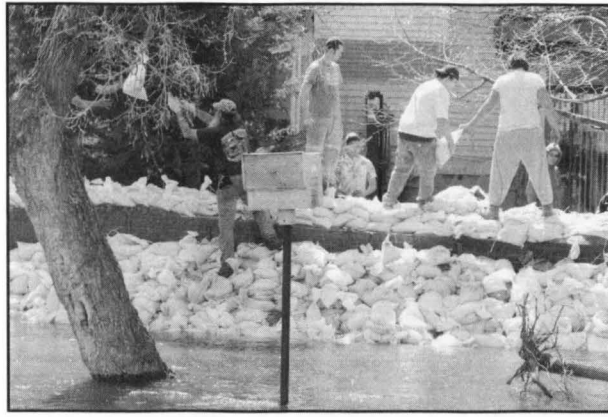
"Due to record snow pack and expected high run-off, Jamestown and its downstream neighbors braced for flooding," said Col. David Press, commander of Omaha District. "Mother Nature wasn't kidding, and we were called in to do one of the things we do best — manage flood water and protect the lives and property of those in its path. I signed the emergency declaration on March 23 and advance measures were put into place."

But signs of pending trouble were clear to Omaha District specialists long before the reservoirs started to rise. Heavier-than-normal snowfall throughout the vast James River watershed were apparent in early March. Flooding in other parts of North Dakota and Minnesota on the Red River predicted similar flooding in the James River system.

"We had an extraordinary team effort during our Dakotas flood fight," said Kim Thomas, chief of Readiness Branch. "Omaha District had one goal, to protect lives and property for North and South Dakota. Open and transparent communication between the state, Federal Emergency Management Agency, county, local officials, and USACE led to outstanding relationships. We used this event to build our bench. We teamed our technical experts with inexperienced engineers so that after this event they would also be technical experts, ready for the next flood fight."

Five months, \$10 million, 5.5 miles of temporary levees, and 177 district employees contributed to protecting infrastructure valued at \$70 million and communities at risk from record amounts of snow melt that swelled the James River to historic levels.

Temporary levees were raised, and then raised again as forecasts were revised. Volunteers and contractors filled and placed 1.4 million sandbags to protect the city. Releases from Jamestown and Pipestem reservoirs, just upstream from Jamestown, were



Volunteers raise the height of flood barriers in Jamestown, N.D., as rising levels of the James River threatened the community last spring. (Photo by Michael Fletcher, Omaha District)

regulated, often varying several times daily in response to rainfall, overland flooding, and ice flow conditions.

"We managed some 600,000 acre feet of water out of Pipestem and Jamestown reservoirs," Press said. "That's enough water to cover the 1,025-square-mile Jamestown drainage area in one foot of water, or cover most of Los Angeles in two feet of water."

About 17,500 linear feet of flood-fight barriers were placed. About 5.5 miles of temporary levees were built and later removed after the waters subsided. A total of 177 people were engaged in the flood fight — 103 at the April 22 peak, with 38 in the field and 65 in the district.

North Dakota senator Kent Conrad wrote, "Omaha District has done a truly extraordinary job in assisting communities to prepare for and battle the flooding disaster. You can be proud of the work your staff is doing to make sure thousands are protected."

Run-off from Pipestem and Jamestown reservoirs eclipsed all records. The Jamestown Dam released water through its emergency spillway for the first time since it was built in the 1950s. On April 26, the reservoir reached a record of 1,454.1 feet, which overtopped the 1,454-foot dam crest by 0.1 foot. That's just barely over an inch, but it was 8.2 feet higher than the previous record of 1,445.9 feet set in May 1997.

"This spring and summer has been a critical time for Jamestown and the surrounding area," said Clarice Liechty, mayor of Jamestown. "What would



Contractors use heavy equipment to remove 5.5 miles of temporary levees built along the James River and tributaries this spring. (Photo by Paul Johnston, Omaha District)

we have done without the personal attention we received from the U.S. Army Corps of Engineers from the top down?

"But even before our flood, the Corps was not a faceless agency," Liechty continued. "Bob Martin has been the face of the Corps in our community for many years. Because of his active involvement in our community, a trust had already been built up among the Corps, our emergency manager, the many various agencies, and the citizens of Jamestown."

"Also, Timothy Temeyer and Jay Lincoln from the Omaha office who have, over the years, given their personal attention to our Pipestem and Jamestown water control dams and the impact of flows downstream into the Pipestem Creek and the James River," Liechty added. "Kimberly Thomas was added to the team and she did an excellent job of communication and coordination."

"I don't want to leave out the work of Maj. Mark Himes, the operations officer at Garrison Dam, and Todd Lindquist, the operations project manager who were called into service at Jamestown," Liechty added.

"There were many, many Corps staff from all levels who were here, all working to protect homes and lives, all professional, knowledgeable, and caring," Liechty concluded. "You were needed and you filled the need. Thank you for now and for the future, since we know you will continue to be here to help make the decisions for future flood control measures. Thank you!"

Dangerous real estate

Continued from previous page
little more than three feet).

Therefore, the ADU site is being demined. According to David Stanton, the project's safety manager, "The ADU will be a major Afghan army training center that's being called the Fort Bragg of Afghanistan," referring to the home of the XVIII Airborne Corps and the Special Forces in North Carolina.

USACE is working for CSTC-A and using the services of Ronco Consulting Corporation, has the tedious task of clearing this site. Ronco is taking every precaution to clean it up safely and completely.

"Ronco clears the land in grid areas using the latest subsurface detection equipment to a depth of one meter and sometimes up to four meters (about 13 feet), finding about 1,000 pieces of ordinance every 10 days, including large artillery projectiles, mortars, grenades, small arms ammunition, mines, and cluster munitions," said Chris Yonat,



An Afghan de-mining crew stops work so they will not endanger a visitor. (Photo courtesy of Afghanistan Engineer District)

occupational and explosive safety specialist.

Ronco carefully logs and insures quality control standards every step of the way, and so far 800,000 square meters (almost 500 square miles) have been cleared of the four million square meters designated for the ADU site.

"This is a significant accomplishment considering the depth requirements," Stanton said. "The scope of work is considered the largest demining effort undertaken in this country, and the largest that AED has accomplished to this point."

The ADU site is definitely one of the

largest demining projects in the country, and Afghanistan is one of the most heavily mined countries in the world. Each month, an average of 63 people die in Afghanistan from landmines.

Thirty-two of Afghanistan 34 provinces are contaminated with land mines and UXO, and since 1989 the Afghan government's Mine Action Program for Afghanistan has cleared almost 1.2 billion square meters of land, with more than 700 million square meters remaining to be cleared. That represents about 60 percent of all the contaminated land estimated to exist in Afghanistan.

According to the Ministry of Foreign Affairs, in the past 18 years Afghan mine-action personnel have made substantial progress toward clearing all anti-personnel mines by the 2013 deadline. USACE plays a vital role in removing UXO and mines at construction sites in Afghanistan, and in making use of the land after it is cleared.

Cochiti Lake has new visitors' center

Article by Elizabeth Lockyear
Photo by Bruce Hill
Albuquerque District

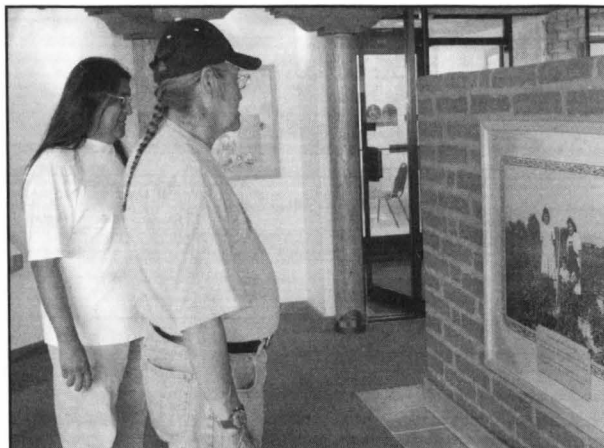
Visitors to Cochiti Lake can now experience the history and geography of the area in new and interactive ways thanks to the extensive renovation of the lake's visitors' center.

The center serves as an introduction to the area, with a focus on the history of Cochiti Dam, and is designed also to deepen public knowledge of the natural environment that surrounds Cochiti Lake. The renovation was a collaboration between the U.S. Army Corps of Engineers and Cochiti Pueblo.

Jorge Colberg, deputy district engineer for programs and project management in Albuquerque District, describes the visitor's center's two-fold role as "a door to the Corps and a door to the vital relationship between the Corps and Cochiti Pueblo."

Following several months of renovation, the new center is home to unique exhibits that won't be found anywhere else, according to Craig Lykins, a former natural resource specialist at the Cochiti Lake Project Office who spearheaded the project.

Because the exhibits had unique and complex design, the renovation process took longer than origi-



Vernon Garcia (left), acting lieutenant governor for Cochiti Pueblo, and Jose Herrero, a pueblo tribal council member, view an exhibit at the new Cochiti Lake Visitors' Center.

nally planned.

"I'm extremely happy with the results," Lykins said.

Among the exhibits is a one-of-a-kind map of the Rio Grande River as it flows through New Mexico. Three informational sections in the exhibit focus

on the geology, watershed management, and the settlement and development of the area around the Rio Grande. Surrounding the map is an adobe wall built with materials from the native land.

Another notable exhibit is a motion-sensitive multimedia presentation telling the story of Cochiti Dam, narrated by Francisco Chavez, a Cochiti Pueblo member and longtime employee at the dam.

Chavez began his career at Cochiti Dam in 1971, and he worked there and at several other USACE dams in Albuquerque District for more than 30 years as an electrician.

During his job he kept handwritten accounts of events, which document the history of the dam from an eyewitness perspective.

The exhibits are designed for a 12-to-20 year lifespan because finding the necessary funds to replace them can be a challenge. Funds for this renovation were provided by a USACE initiative that recognizes the importance of providing informative and interesting visitors' centers at USACE facilities of all kinds nationwide.

In addition, having much of the work done by local maintenance staff not only helped the budget, it also added to the overall quality and atmosphere of the final result.

HR Corner

Tuition lowered at learning center

In this economy, isn't it good news to hear that the price of something is going down? Well, we have good news...the U.S. Army Corps of Engineers Learning Center (ULC) is reducing tuition rates by \$150 per student for the entire fiscal 2010 Proponent Sponsored Engineer Corps Training (PROSPECT) program.

Each fiscal year, USACE organizations are surveyed to determine their training requirements. The fiscal 2010 PROSPECT survey resulted in more than 11,000 requirements for training, and the number is expected to grow as the training year progresses.

This led to a 61 percent increase in enrollments, resulting in more than 170 additional training sessions, many of which are dedicated onsite classes tailored to the unique needs of our customers.

The PROSPECT program provides job-related training through technical, professional, managerial, and leadership courses to meet the unique needs of the U.S. Army Corps of Engineers and other government agencies.

Dedicated instructors who excel in their areas of expertise are selected from Headquarters, divisions, districts, laboratories, the ULC, or from universities or private firms to design and teach the PROSPECT courses.

PROSPECT is entirely dependent on tuition income to keep the program viable, and we work hard to keep tuition costs down by reviewing schedules of instructions, number of faculty needed, location, and a myriad of other actions that determine the cost of our training sessions.

The PROSPECT course catalog, known as the Purple Book, currently lists more than 200 courses that cover a wide variety of topics supporting the missions of USACE. These courses are available to federal, state, and local government employees.

Providing high quality training and learning experiences for employees engaged in USACE missions throughout the world, as well as training other Army and selected federal and state employees, makes the ULC a vital resource for developing our workforce.

Beside developing and delivering PROSPECT

courses, the ULC is working hard to field the USACE Learning Network, a robust Learning Management System (LMS). This LMS will provide the best possible tools to help you manage and schedule

your training when and where needed most.

Check the USACE Learning Center Web site at www.ulc.usace.army.mil regularly for additional details.

'Dirty Jobs' features work at Detroit District locks

By Lynn Duerod
Detroit District



Mike Rowe, star of "Dirty Jobs," after working at the Sault Ste. Marie Locks. (Photo courtesy of Detroit District)

The dirty work of going into the bowels of the world-famous Soo Locks and cleaning and greasing the locks inner mechanisms is one of the latest tasks that will be featured on the Emmy-nominated show "Dirty Jobs with Mike Rowe."

The producer said they expect the episode about Soo Locks to air in September. The program airs nationally and internationally on the Discovery Channel.

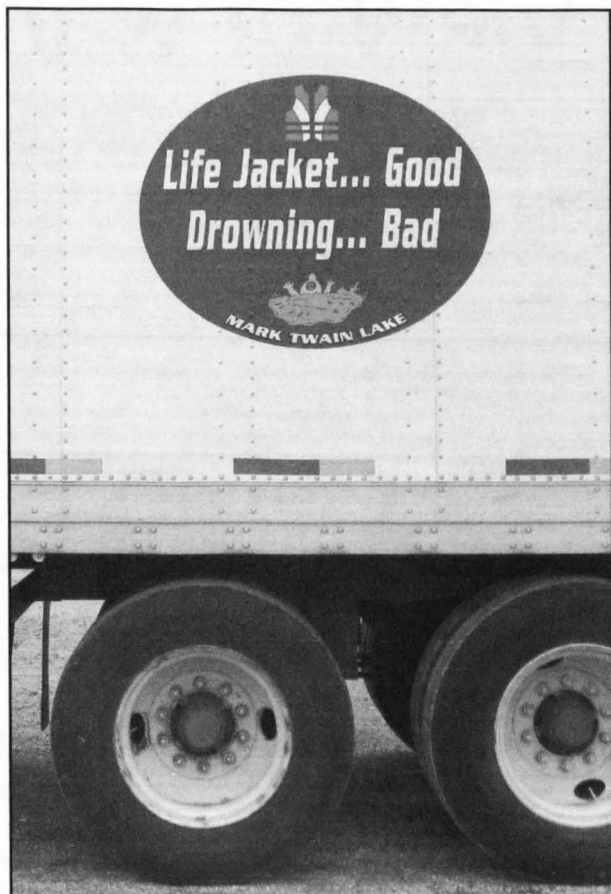
Rowe and the "Dirty Jobs" film crew visited the locks at Sault Ste. Marie during the week of March 9 and did work outside in the cold and inside the lock.

Some of the jobs Rowe performed were to clean and grease valve engine sector gear, and replace and tighten a bolt on that gear – all in the MacArthur Lock's gate house. He also did lateral cleaning in the MacArthur Lock culvert and mucking in the Poe/Davis Locks' well tunnel.

Blustery winter weather delayed the crew from filming and they got started later than expected. As a result, they extended their stay longer so they could complete the jobs that were originally scheduled.

In addition to the work, Detroit District hosted a press conference with Rowe at the locks' administration building. According to the film crew, this was only the second time in the show's 200-episode history that Rowe has been available to the press.

Around the Corps



This water safety message is traveling the interstate highways on 40 18-wheelers.

Highway water safety

Some innovative efforts go into telling the USACE water safety message. Mark Twain Lake in St. Louis District upped the ante and partnered with the G.C. Potterfield Trucking Company of nearby Monroe City, Mo., to send the water safety message over much of the nation at 55 miles per hour.

Forty large white 53-foot trailers from G.C. Potterfield travel the nation's interstate highways and thoroughfares emblazoned with three large blue oval decals — left and right sides and the rear of each trailer. Each delivers a simple message: "Life Jacket...Good. Drowning...Bad. Mark Twain Lake."

A graphic of an orange-and-white life jacket, and an image of a drowning person calling for help complete the message.

"We run the eastern half of the country, minus the New England states, plus as far west as the Plains States," said company owner Randy Potterfield. "A friend of ours lost a son in a boating accident several years ago. If he had worn a life jacket he might still be with us."

Many G.C. Potterfield employees are avid boaters at nearby Mark Twain Lake. "We're proud to be partners with the Corps of Engineers to make Mark Twain Lake as safe as it can be," Potterfield said.

The 18,600 acre lake northwest of St. Louis hosts some two million visits annually.

ARRA solar project

Honolulu District awarded a \$1.08 million contract to Innovative Constructors Hawaii, Ltd. for an American Recovery and Reinvestment Act-funded project to repair and restore showers and replace outdated water heaters with energy-efficient solar water heaters in buildings 520 and 525 at Fort Shafter, Hawaii.

Barracks groundbreaking

Honolulu District hosted a groundbreaking to officially begin construction of a new barracks complex at Scholfield Barracks, Hawaii. It is the first of several projects to replace the old motor pools along Lyman

Road with new barracks, battalion and/or brigade headquarters, and company operations facilities.

The complex will have two five-story barracks to house 200 Soldiers per barracks, each using a "1-plus-1" enhanced room design. Residential units boast a cooktop, oven, refrigerator, and microwave in each module. Each floor will have central laundry facilities, and support facilities will have a central charge-of-quarters station, lobby, activity rooms, and a mailroom.

The complex will offset the current deficit of housing for single soldiers, and facilitate the growth of the 25th Infantry Division. Honolulu District awarded the project to Absher Construction Co. of Puyallup, Wash., in January for \$73 million. Completion is expected Oct. 6, 2011.

Cochiti Lake ARRA project

The project to improve recreation facilities at Cochiti Lake, N.M., reached a milestone Aug. 5. A ribbon-cutting sponsored by Albuquerque District and Pueblo de Cochiti marked the completion of the first two phases of the four-phase, \$13 million campground renovation project.

The existing 30-year-old facilities were built on steep terrain and could not accommodate longer modern recreational vehicles (RV). The first phase began in September 2007 and renovated the campground's utilities and infrastructure, and completed a new gatehouse, entrance facilities, and an RV dump station.

The second phase began in September 2008 and included demolition of the day-use area, construction of a new RV campsite loop with 16 RV full-service sites, 16 primitive campsites, a comfort station, and larger water supply line.

Phase three will include 14 primitive campsites and one comfort station. It is scheduled to be awarded in October under the American Recovery and Reinvestment Act, and is expected to open next summer.

The fourth phase will have 32 RV full-service campsites and one comfort station, and will begin when funds are available.

Iraq alternative energy

There is a critical problem of electric power for high-security Iraqi facilities, such as border crossings on the Iranian border. These facilities need uninterrupted power, but they are so remote it is impossible to connect them to the national power grid.



A wind turbine like this one will provide power to remote border crossing outposts in Iraq.

The engineering arm (J7) of the Multi-National Security Transition Command-Iraq (MNSTC-I), in partnership with USACE, is funding and building alternative energy systems for these remote locations. For border crossings near Badrah, the J7 team has designed a unique system using both solar panels and a large wind turbine. The wind turbine and solar panel will be connected to the appropriate switch gear allowing either, or both, power sources to generate electricity, depending on conditions.

The wind turbine can generate 500 kilowatt hours of electricity at a wind speed of only 12 miles an hour. In addition, 24 solar panels can provide more than

5,000 watts of peak power.

Later this year, the Badrah facility will become the first operational system of its kind in Iraq. The Iraqi Border Enforcement teams will run the systems, and the coalition forces, through contractors, will train the Iraqis to operate and maintain the facilities.

Westfield Lake

After a series of inspections and calibration tests on Westville Lake Dam, New England District determined that the dam needed critical repairs for continued safe operation. USACE has taken steps to reduce the risk. Flood operation restrictions, maximum pool restrictions, initial interim risk reduction measures, and increased surveillance and monitoring have been implemented.

The Westville Lake Dam is on the Quinebaug River at Southbridge and Sturbridge, Mass. The dam is one of six dams built and maintained by USACE to control flood damages in the Thames River Basin.

USACE determined that Westville Lake Dam has significant foundation and abutment seepage issues. Subsurface exploration at the dam last year encountered porous foundation materials and fractured bedrock.

"We will perform additional borings this summer to determine the extent of potential seepage paths to design the most suitable fix," said project manager Erik Matthews in the Engineering/Planning Division.

USACE will use East Brimfield Lake Dam upstream and West Thompson Lake Dam downstream to store more water in the event of high water flows to allow Westville Lake to maintain a low pool level and reduce the pressure on the dam.



A geotextile tube lies at the core of the 5.7-mile artificial dune at Grand Isle.

Grand Isle

The Grand Isle and Vicinity Hurricane Protection Project is a 7.5 mile vegetated sand dune that extends the length of the island's gulf shore, a jetty to stabilize its western end at Caminada Pass, and an offshore breakwater.

Before Hurricane Gustav, there was an on-going construction project to repair damages to the federal dune project caused by Hurricane Katrina. This construction was about 95 percent complete when Hurricane Gustav struck, destroying much of that effort.

Currently, a 5.7-mile artificial dune is being built with a geotextile tube core and sand cap to reduce impact to the island's residents and structures. The geotextile tube is being filled with about one million cubic yards of sand excavated from the area, and then covered with sand and indigenous grasses.

This artificial sand dune will be more durable than a natural dune because it has a stable core. Construction is well under way, and installation of the geotextile tube core will be done this fall. The entire project will be complete by the end this year.

Great Wonders of USACE

BuckEye...the bird's-eye view of war

By Jamal Beck
Army Geospatial Center

("The Thirteen Great Wonders of the Corps" were introduced during the Summer Leaders Conference Aug. 3-7 in Orlando, Fla. This is the first in a series of articles to highlight the USACE wonders.)

The U.S. Army Geospatial Center's (AGC) BuckEye system was born in 2004 from the warfighter's need for unclassified, high-resolution, field-expedient geospatial data that could be applied to intelligence, surveillance, and reconnaissance (ISR) missions.

The first BuckEye systems in Iraq and Afghanistan had a color digital camera flown on rotary-wing aircraft to collect quick response images for ISR, and to detect subtle changes in the terrain that might indicate improvised explosive devices. In November 2005, a new BuckEye system deployed to Iraq on a fixed-wing aircraft to concentrate on urban mapping.

In addition to a digital color camera, the new system included a light detection and ranging (LIDAR) sensor to collect high-resolution, high-accuracy elevation data. LIDAR, now an integral part of the BuckEye system, supports improved battlefield visualization, line of sight analysis, and urban warfare planning.

Because of its three-dimensional accuracy, LIDAR also supports orthorectification of imagery, making it more accurate as well. (Orthorectification converts imagery into map-accurate form by removing sensor distortions and terrain-related distortions from the raw imagery.) Once imagery is orthorectified, individual frames can be combined into large mosaics.

In November 2007, a LIDAR/color camera system on a fixed-wing aircraft was deployed to Afghanistan to provide mapping capabilities.

The system

BuckEye's 39-megapixel digital color camera collects high-resolution imagery at 10 centimeter (3.9 inch) resolution. BuckEye imagery provides the highest level of detail in two dimensions, but the battlespace environment is three-dimensional – LIDAR provides the third dimension through high resolution elevation data needed for urban and complex terrain.

LIDAR's 3D accuracy supports stitching together individual image frames into large mosaics, allowing the ground commander to identify and map tactical threats over an entire city.

"BuckEye imagery and LIDAR elevation data provide the most current and accurate picture of the area of operations," said Mike Hardaway, BuckEye project manager. "It allows Soldiers to see details of the urban environment that are critical to planning tactical operations. Since all BuckEye data is unclassified, it can be used by every Soldier, and be carried on the mission if necessary."

BuckEye systems have supported U.S. Central Command for more than four years. The BuckEye imagery/LIDAR systems are centrally controlled to support the entire theater.

The system in Iraq has collected more than 53,000 square kilometers (32,860 square miles) of data, primarily over urban areas, but also along main supply routes. This includes more than 1,400 tiles of LIDAR elevation data at one-meter resolution (a little more than one yard), covering most Iraqi cities, and has collected more than 1.4 million color images at 10 to 15 centimeter (3.9 to 5.9 inch) resolution.

The system in Afghanistan has collected more than 16,000 square kilometers (9,920 square miles) of data, primarily in the valleys between rugged mountains.

"BuckEye is the only sensor in the Army capable of providing this level of precision," said Chief Warrant Officer Mike Harper, senior geospatial information technician. "BuckEye data (LIDAR and imagery) provides a high resolution source to register data from



(Above) BuckEye's LIDAR images give Soldiers a three-dimensional view of the terrain. (Right) The BuckEye system is evolving into a compact set of sensors. (Photos courtesy of the Army Geospatial Center)

other sensors such as Constant Hawk and Angel Fire, improving their products' accuracy and utility."

BuckEye is a valuable tool in mitigating threats, especially since BuckEye imagery is unclassified and Soldiers can easily access it. Soldiers have access to national satellite imagery only in a Sensitive Compartmented Information Facility, and often do not have the clearance necessary to retrieve it. So BuckEye serves as a readily-available alternative.

Commercial satellite imagery is widely available, but the best available resolution is 0.6 meters (about 23 inches), where BuckEye imagery is collected at 0.1 meter (3.9 inch) resolution.

Mapping mission report

BuckEye is used in Iraq primarily to support urban mapping. If an in-theater commander needs imagery, requirements are sent through the collection manager, who prioritizes missions and informs the BuckEye team. Sensor operators plan the mapping mission to collect image and LIDAR strips efficiently. Individual images are made available quickly and served via the Topographic Engineering Center's Web-based BuckEye Imagery GeoIndex (BIG) viewer.

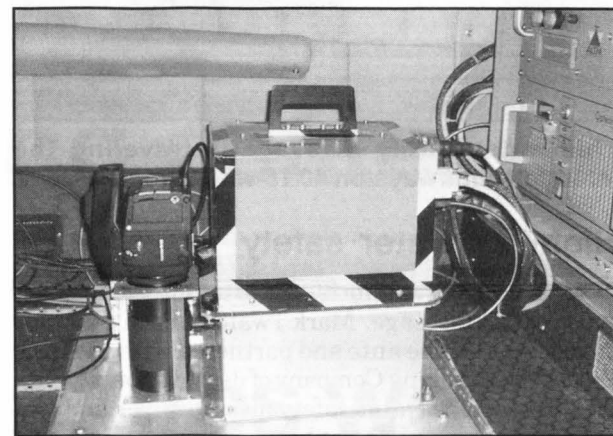
Once the LIDAR elevation data is processed, it is used to control (orthorectify) the individual image frames. Once controlled and their positions adjusted, images can be stitched together to form orthomosaics.

Orthosaic files are very large, so the final image product is compressed into a MrSID format for distribution. Data is pushed to requesting units on DVD or on an external hard drive, and also made available on all Department of Defense networks.

"BuckEye photos should be mandatory for the entire theater," said Capt. Trevor Voelkel, commander of C Company in the 3rd Infantry Training Combat Team. "The level of detail you get is phenomenal."

Once the collected imagery is received at the AGC, it is checked and made available as downloadable image files via the BIG Viewer on AGC Web sites. LIDAR is processed quickly into gridded tiles and posted to the networks. Imagery orthomosaics are posted as they are completed and quality-checked.

BuckEye imagery is also available to coalition partners, subject to CENTCOM release guidance. Since the data is unclassified, Soldiers are permitted to share the data with our coalition partners and civilians.



ISR support

BuckEye missions also include ISR in support of tactical planning and reconstruction. One recent example involved collections over pipeline exclusion zones in response to a request by USACE and Department of State. The information was used to provide situational awareness and protection planning along the pipeline route from Bayji to Baghdad. USACE also requested imagery for reconstruction planning over an area where a power line was downed by insurgents.

ISR missions in Afghanistan are processed on-site and imagery provided to customers within hours of collection. The imagery is processed for display in a BIG geo-indexed Web page for immediate exploitation. Fully processed image mosaics with accuracies controlled to the LIDAR take several days to several weeks, depending on the size. Once these are completed, they are posted on AGC Web sites for download.

They are also used to make image products like the GeoPDF Mapbooks. Once the imagery is formatted into a GeoPDF, it can be viewed on any computer with Acrobat Reader. Coordinates can be read from the GeoPDF using a free GeoPDF plug-in.

The way ahead

Data collection over Iraq and Afghanistan at low altitudes exposes pilots to enemy fire. So the BuckEye team has tested its capabilities using a downsized integrated sensor suite on an unmanned aircraft.

BuckEye data has also been collected in the U.S. to support training, and is available for Fort Irwin and 29 Palms in California, and Yuma Proving Grounds, Ariz. Other recent U.S. collections include Fort Leonard Wood, Mo.

For more information about the BuckEye program, please visit www.agc.army.mil